ters either proximal to lesions, permitting external drainage or across lesions, into the duodenum, permitting internal drainage.

Following administration of antibiotics and sedation, a fine-needle transhepatic cholangiogram is done on all patients prior to the placement of a percutaneous drainage catheter. This allows confirmation of the diagnosis of biliary obstruction, demonstrates the anatomy of the bile ducts and may demonstrate the site and nature of the obstructing lesion. A 16-gauge sheathed needle is then introduced from the right midaxillary line using the opacified biliary tree as a guide. When an appropriate duct is cannulated, the metal stylet is removed and the Teflon sheath is slowly withdrawn until bile flow is established. Once bile flow is established, an angiographic guidewire is introduced. The sheath-guidewire combination is then manipulated distally to the site of the obstruction. If the obstruction is crossed, the guidewire is manipulated into the duodenum and, using several intermediate steps, a 7-French or 8-French pigtail catheter is introduced with holes above and below the lesion. This permits either external or internal bile drainage. If the guidewire cannot be manipulated past the lesion, a pigtail catheter is introduced and external drainage begun.

This procedure is used preoperatively in patients with malignant obstruction to allow the patient to be completely evaluated and optimal presurgical physiologic status to be attained. Alternatively, those patients who are not surgical candidates may be effectively palliated. Patients with biliary strictures, obstructing calculi, obstructing pancreatitis and postoperative problems, have also benefited from temporary percutaneous drainage while awaiting more definitive therapy.

The success rate in placing a catheter in an obstructed biliary tree is approximately 90 percent. Of these patients, internal drainage can be established in about 85 percent. The most common complication is sepsis. In short-term drainage in patients without antecedent infection, the rate of cholangitis is 4 percent to 15 percent. However, this can usually be treated with fluids, antibiotic drugs and external drainage. The incidence of cholangitis in patients with chronic drainage is higher; however, this is usually due to blockage of the catheter and can be readily treated by medical management and replacement of the obstructed tube. Bleeding, leakage of bile and pneumothorax have also been reported; however, these are infrequent complications and have not required emergency operations.

Because of low morbidity and its ability to aid significantly in the management of difficult problems in the obstructed biliary tree, percutaneous biliary drainage is rapidly becoming an important adjunct in the management of surgical jaundice.

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Contemporary Treatment for Early Breast Cancer

THE WIDE EXPOSURE that the topic of breast cancer has received in the media has helped to prompt women to explore alternate methods to mastectomy. Further, it is now a law in California that when mastectomy is proposed to a patient, alternate methods of treatment must be discussed. This trend away from mastectomies suggests that results from conservative approaches to treatment can no longer be dismissed as preliminary and, in fact, mastectomy for early breast cancer may soon be outdated. Lumpectomy plus radiation therapy has been used long enough and on sufficient numbers of patients to be conclusive as one such approach.

Prosnitz, from Yale, recently presented data on 293 patients treated at four East Coast university hospitals. Patients had stage I and II disease and were treated with local excision and radiation therapy. Five- and ten-year survival rates were comparable with those of the mastectomy series, and the local control rate was 92 percent. Of the 8 percent that failed locally, half had no evidence of disease after salvage operations. Cosmetic results were good to excellent in 85 percent of patients.

Peters, from Princess Margaret Hospital in Toronto, reported on 203 patients with early breast cancer who were treated with limited surgical procedures and radiation therapy; 609 matched patients who had received mastectomies

were used as controls. In 2- to 30-year follow-up studies, no significant differences in survival rates were noted.

Bonadonna recently reported the five-year results of a study in Milan where a randomized trial is underway. This trial compares the results of segmental mastectomy followed by radiation therapy, with those of Halsted radical mastectomy. Patients had T1, N0 and M0 lesions. By May 1980 more than 700 patients had been included. Relapse-free survival was 83 percent for the conservative group. Total survival was 89.7 percent and 88.5 percent, respectively. This study is exciting because it is both prospective and randomized.

As public interest in alternate methods to mastectomy for treatment of early breast cancer grows, physicians need to be aware of such options.

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